THIS OPINION WAS NOT WRITTEN FOR PUBLICATION

The opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.

Paper No. 14

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte TIMOTHY J. FULLER and RALPH A. MOSHER

Appeal No. 95-0878
Application 07/921,820[1]

ON BRIEF

Before GARRIS, WEIFFENBACH and OWENS, ***Administrative Patent Judges***.

WEIFFENBACH, ***Administrative Patent Judge***.

DECISION ON APPEAL

This is a decision on appeal under 35 U.S.C. § 134 from the examiner's final rejection of claims 1, 3, 4, 6-15 and 17-22 which are all of the claims remaining in the application. We reverse and for

[1]Application for patent filed July 29, 1992.

reasons which follow, a new ground of rejection of claims 1, 3, 4, 6-15 and 17-22 under the second paragraph under 35 U.S.C. § 112 is entered under the provisions of 37 CFR § 1.196(b).

The Claimed Subject Matter

The claims on appeal are directed to a toner composition, a developer composition containing the toner composition, and a method of imaging using the toner composition. The following claims are illustrative of the claimed subject matter:

> 1. A toner composition consisting of polyoxazolines resin particles, pigment particles, and optional charge enhancing additives.
>
> 3. A toner composition in accordance with claim 1 wherein the resin particles represented by said polyoxazolines are of the formula $[-CH_2-CH_2-N(R)-]_n$ wherein R is trifluoroacetyl, trifluoropropenyl, trifluoroacetyl/acetyl, stearoyl, trialkylsilyl, fluorinated alkyl, or fluorinated alkyl substituents, and n is between 15 and 100.
>
> 15. A developer composition comprised of the toner composition of claim 1 and carrier particles.
>
> 20. A method of imaging which comprises formulating an electrostatic latent image on a photoconductive imaging member, affecting development thereof with the toner composition of claim 1, and thereafter transferring the developed image to a suitable substrate.

The Prior Art

The following prior art references are relied upon by the examiner in support of the rejection of the claims:

Fuller et al. (Fuller)	5,166,026	Nov. 24, 1992
Ikeda et al. (JP 4-202345)[2]	4-202345	Jul. 23, 1992
(Japanese Kôkai Published Application)		

The Rejections[3]

Claims 3, 21 and 22 stand rejected under 35 U.S.C. § 112, first paragraph, as being based on a non-enabling disclosure.

Claims 1, 4, 6-15 and 17-20 stand rejected under 35 U.S.C. § 102(e) as anticipated by Fuller and under 35 U.S.C. § 102(a) as anticipated by JP 4-202345.

Opinion

The examiner rejected claims 3, 21 and 22 under 35 U.S.C. § 112, first paragraph, based on an objection to the specification that "the specification does not enable polyoxazoline of the formula shown in claim [sic, claims] 3 and 21" (answer: p. 3). In particular, the examiner asserts that

> in the absence of evidence to the contrary, ... the term "oxazoline" is a cyclic structure and a polyoxazoline thus signifies a polymer having this cyclic structure. As Applicant's [sic,

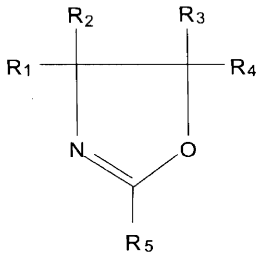
[2]Our consideration of this reference is based on an English translation which is of record.

[3]The final Office action included a rejection of claims 1, 3, 4, 6-15 and 17-22 under 35 U.S.C. § 112, second paragraph. According to the examiner, this rejection has been withdrawn. See page 4 of the answer.

> Appellants'] specification teaches polyoxazolines it thus does not enable linear compounds as shown in claims 3, 21 and 22 called polyoxazolines as in claim 1 and it is the Examiner's position [that] the use [of] polyoxazoline is incorrect. [Answer: p. 3.]

The examiner references page 12 of JP 4-202345 which describes a polymer that contains oxazoline groups as follows:

> The polymer (B) that contains oxazoline groups utilized in this invention is preferably a polymer obtained by polymerizing the addition polymerization oxa-zoline expressed by the general formula



(1)

> (wherein R_1, R_2, R_3, [and] R_4 are hydrogen, halogen, alkyl, aralkyl, phenyl or substituted phenyl groups, separately and respectively, while R_5 is acyclic organic groups that possess addition polymerization unsaturated bonds) and at least one kind of other monomers (b), as needed.
>
> The addition polymerization oxazoline (a) utilized in this invention is expressed by the above mentioned general formula (1), specific examples thereof may include 2-vinyl-2-oxazoline, 2-vinyl-4-methyl-2-oxazoline, 2-vinyl-5-methyl-2-oxazoline, 2-isopropenyl-2-oxazoline,2-isopropenyl-4-methyl-2-oxazoline,2-isopropenyl-5-ethyl-2-oxazoline,etc., whereof 1, 2 or more kinds may be used as a mix.

Appellants argue that the formulas set forth in claims 3 and 21 are illustrated on page 7, lines 1-8 of their specification and that the preparation of the polymers are set forth on page 8, lines 6-17 of the specification. In particular, appellants disclose that

> ... the present invention in one embodiment is directed to toner compositions comprised of substituted polyoxazolines, linear polyethyleneimine polymers, or mixtures thereof of the following formulas $[-CH_2-CH_2-N(COCF_3)-]_n$; $[-CH_2-CH_2-N(COCF_3)-CH_2-CH_2-N(COCH_3)-]_n$; $[-CH_2-CH_2-N(CO(CH_2)_{16}CH_3)-]_n$; $[-CH_2-CH_2-N(SiMe_2OCH_2CF_3)-]_n$; $[-CH_2-CH_2-N(SiMe_2CH_2CF_3)-]_n$; $[-CH_2-CH_2-N(COCF_2CF_2-CF_3)-]_n$; $[-CH_2-CH_2-N(COCH_2CF_2\,CF_2CF_3)-]_n$; wherein Me represents CH_3 and n is a number of from 10, preferably 15, to about 100. [Specification: p. 7, lines 1-8.]
>
> * * *
>
> The polymers of the present invention can be prepared by the cationic thermal polymerization of 2-substituted oxazolines, or alternatively, by derivatizing linear polyethyleneimine with, for example, acyl chlorides, anhydrides, chlorosilanes, and other reagents known to react with secondary amines and polyamines. Linear polyethyleneimine can be prepared by the basic or preferably the acidic hydrolysis of poly(2-substituted-oxazolines), like poly(2-methyl-oxazoline), poly(2-ethyl-2-oxazoline) or poly(2-phenyl-2-oxazoline). Poly(trifluoroacetylethleneimine) can be prepared by the thermal cationic polymerization of 2-trifluoromethyl-2-oxazoline or by the reaction of linear polyethyleneimine with either trifluoroacetic anhydride or trifluoroacetyl chloride. [Specification: p. 8, lines 6-17.]

Appellants point to their working examples in the specification which describe the preparation of poly(2-phenyl-2-oxazoline) by heating 2-phenyl-2-oxazoline with 2-phenyl-2-oxazolium perchlorate (Example III), the hydrolysis of poly(2-phenyl-2-oxazoline) to form linear polyethyleneimine (Example IV), the preparation of poly(2-ethyl-2-oxazoline) by heating 2-ethyl-2-oxazoline with 2-phenyl-2-oxazolium perchlorate (Example V), the hydrolysis of poly(2-ethyl-2-oxazoline) to form linear polyethyleneimine (Examples VI and VII), the preparation of poly(trifluoroacetyl-ethyleneimine) by reacting linear polyethyleneimine with sodium trifluoroacetate (Example VIII), and the preparation of

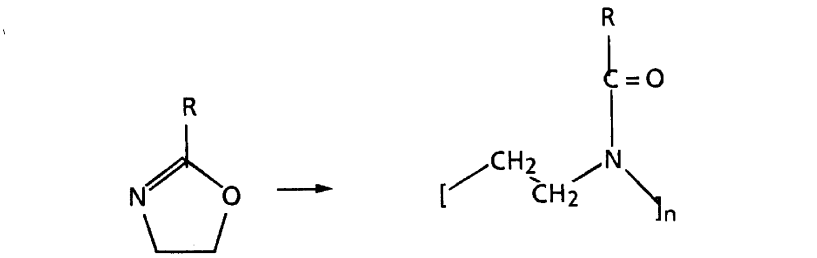
poly(stearoylethyleneimine) by reacting linear polyethyleneimine with stearoyl chloride (Example X). In response to appellants' argument, the examiner states that the claims were rejected

> ... because the specification is unclear as to if the linear formula of the compound in claim 3 is in fact a polyoxazoline. As clearly shown in the prior art of JP 4-202345 a polyoxazoline contains a heterocyclic ring. As shown in any chemical dictionary an oxazoline contains a heterocyclic ring. Thus there is confusion as to if the non-cyclic structures in claim 3 can properly be called polyoxazolines. The Applicant has not supplied any evidence to convince the Examiner that one skilled in the art would consider a polyoxazoline having both a cyclic and a non-cyclic heterocycle. The Examiner notes original independent claim 2, now canceled, reads on a toner composition of "polyoxazolines or substituted linear polyethyleneimine resin particles." It is the Examiner [sic, Examiner's] position the compounds shown in the formula in claim 3 read on the latter definition not polyoxazoline. However the Examiner restricted claims 1 and 2 to separate the different toner compositions, one having polyoxazoline resin and the other substituted linear polyethyleneimine resin, (see paragraphs 15-18 of Paper No. 3) and the Applicant elected the invention of Group I drawn to polyoxazolines and for which the Examiner searched cyclic polyoxazoline not non-cyclic linear polyethyleneimines. The Applicant can not [sic, cannot] combine these terms to obtain a linear polyoxazoline as it is not enabled in the specification.

The test for determining compliance with the enablement requirement of the first paragraph of 35 U.S.C. § 112 is whether the disclosure, as filed, is sufficiently complete to enable one of ordinary skill in the art to make and use the claimed invention without undue experimentation. ***In re Scarbrough***, 500 F.2d 560, 566, 182 USPQ 298, 303 (CCPA 1974). The examiner has put into question whether the skilled artisan would be able to obtain a polyoxazoline having a linear chemical formula without resorting to undue experimentation.

Before we can make any determination of the examiner's rejection under the first paragraph of 35 U.S.C. § 112, the claims must be analyzed to determine whether the claims define the claimed subject

matter with a reasonable degree of precision and particularity. ***In re Moore***, 439 F.2d 1232, 1235, 169 USPQ 236, 238 (CCPA 1971). Claim 1 recites a toner composition "consisting of polyoxazolines resin particles." Claim 3 which is dependent on claim 1 recites that the "polyoxazolines are of the formula [CH_2-CH_2-N(R)-]$_n$ wherein R is trifluoroacetyl, triflurorpropenyl, trifluoroacetyl/acetyl, stearoyl, trialkylsilyl, fluorinated alkyl or fluorinated alkyl subsitituents ...." We agree with the examiner and as illustrated by JP 4-202345 that oxazoline would have been understood by one having ordinary skill in the art to be a heterocyclic compound and that such a person would have had a reasonable expectation that a polyoxazoline polymer would have a heterocyclic moiety in the polymeric structure. However, according to appellants, that is not the case. In a declaration (paper no. 6) presented by Timothy J. Fuller, one of the named inventors, Mr. Fuller declares that the present invention is directed to toners with poly-2-oxazolines wherein no residual or unreacted oxazoline moieties are present. On page 2 of the declaration, Mr. Fuller illustrates the claimed subject matter as follows:



2-oxazoline, where R = stearoyl, trifluoroacetyl, and the like

poly(2-oxazoline) or poly(2-acyl or aryl-ethyleneimine)

It is reasonable to infer from this illustration that the structural formula for a "polyoxazoline" and a "linear polyethyleneimine" are, in fact, the same and that there is no difference the chemical formulas between "polyoxazoline" and "linear polyethyleneimine." However, appellants' original disclosure appears to indicate "polyoxazoline" and "linear polyethyleneimine" are two separate and distinct polymers. On page 7, line 3 quoted *supra*, appellants refer to "polyoxazolines, linear polyethyleneimine polymers, or mixtures thereof" (underscoring added). In addition, the examiner made a restriction requirement, in the first Office action on the merits, based on the cyclic and linear relationship which he believed made "polyoxazoline" and "linear polyethyleneimine" separate and distinct polymers. Thus, the term "polyoxazolines" as used in appellants' claim 1 is indeterminent since it is not clear whether the terms "polyoxazoline" and "linear polyethyleneimine" mean the same thing or whether they represent different polymers with different chemical formulas or structures.

The resolution of the issues raised by the 35 U.S.C. § 102 and 112 rejections made by the examiner depends, to a large extent, on interpreting the meaning of the term "polyoxazolines" as set forth in claim 1. However, for the aforementioned reasons, the meaning of the term, and therefore the metes and bounds appealed claims, cannot be ascertained. Under these circumstances, any determination of whether claims 1, 4, 6-15 and 17-20 are anticipated by Fuller or JP 4-202345 can only be based upon conjecture and supposition. Such is not a proper basis for making determinations under 35 U.S.C. §§ 102 or 103. ***In re Steele***, 305 F.2d 859, 862, 134 USPQ 292, 295 (CCPA 1962). As the court in ***In re Wilson***, 424 F.2d 1382, 1385, 165 USPQ, 494, 496 (CCPA 1970) stated:

> All words in a claim must be considered in judging the patentability of that claim against the prior art. If no reasonable definite meaning can be ascribed to certain terms in the claim, the subject matter does not become obvious--the claim becomes indefinite.

As to whether claims 3, 21 and 22 satisfy the requirements of the first paragraph of 35 U.S.C. § 112, a determination of the appropriateness of this rejection would also not be proper at this time because any decision would be based on speculations and assumptions.

Accordingly, for the foregoing reasons the examiner's rejections under 35 U.S.C. § 102 and the rejection under the first paragraph of 35 U.S.C. § 112 are summarily reversed, and all of the claims on appeal, claims 1, 3, 4, 6-15 and 17-20, 21 and 22, are rejected under 35 U.S.C. § 112, second paragraph, pursuant to 37 CFR § 1.196(b), for there reasons set forth *supra*. ***In re Steele***, *supra*; ***Ex parte Brummer***, 12 USPQ2d 1653 (Bd. Pat. App. & Int. 1989). We hasten to add that this is a technical reversal of the rejections under 35 U.S.C. §§ 102 and 112, first paragraph, and not a reversal based upon the merits of the rejections.

This decision contains a new ground of rejection pursuant to 37 CFR § 1.196(b)(amended effective Dec. 1, 1997, by final rule notice, 62 Fed. Reg. 53,131, 53,197 (Oct. 10, 1997), 1203 Off. Gaz. Pat. & Trademark Office 63, 122 (Oct. 21, 1997)). 37 CFR § 1.196(b) provides that, "A new ground of rejection shall not be considered final for purposes of judicial review."

37 CFR § 1.196(b) also provides that the appellant, WITHIN TWO MONTHS FROM THE DATE OF THE DECISION, must exercise one of the following two options with respect to the new ground of rejection to avoid termination of proceedings (§ 1.197(c)) as to the rejected claims:

> (1) Submit an appropriate amendment of the claims so rejected or a showing of facts relating to the claims so rejected, or both, and have the matter reconsidered by the examiner, in which event the application will be remanded to the examiner. . . .
>
> (2) Request that the application be reheard under § 1.197(b) by the Board of Patent Appeals and Interferences upon the same record. . . .

No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a).

REVERSED
and
37 CFR § 1.196(b)

BRADLEY R. GARRIS	)	
Administrative Patent Judge	)	
	)	
	)	
	)	
CAMERON WEIFFENBACH	)	BOARD OF PATENT
Administrative Patent Judge	)	APPEALS AND
	)	INTERFERENCES
	)	
	)	
TERRY J. OWENS	)	
Administrative Patent Judge	)	

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